

PRIMERGY TX120 Server

Options Guide

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Certified documentation according to DIN EN ISO 9001:2000

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2000.

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1 Introduction

The PRIMERGY TX120 server is an Intel-based server for small and medium-sized networks and can be used in the horizontal position or as a desktop model.

The PRIMERGY TX120 server features exceptionally low energy consumption, very quiet running and a compact size. As a result, it is also the ideal solution for home and small offices.

Thanks to its highly developed hardware and software components, the PRIMERGY TX120 server offers a high level of data security and availability. These include hot-plug HDD modules, the *ServerView* server management software, Prefailure Detection and Analysing (PDA) and Automatic Server Reconfiguration and Restart (ASR&R).

1.1 Concept and target groups

This Options Guide shows you how to extend and upgrade your server.



CAUTION!

The activities described in this manual may only be performed by technical specialists.



The installation and removal of the hot-plug components is described in the Operating Manual supplied with the server.

1.2 Documentation overview

More information on your PRIMERGY TX120 can be found in the following documents:

- “Quick Start Hardware - PRIMERGY TX120” (only included as a printed copy)
- “Quick Start Software - Quick Installation Guide” (only included as a printed copy)
- “Safety notes and other important information” manual
- “Warranty” manual
- “Ergonomics” manual
- “Returning used devices” manual
- “Helpdesk” leaflet
- Technical manual for the system board D2550
- PRIMERGY TX120 Server Operating Manual
- PRIMERGY TX120 Server Options Guide
- “BIOS Setup V4.06 / FirstBIOS Desktop Pro V5.0 /TrustedCore™ V6.0” manual
- "Integrated RAID for SAS User's Guide"
- "ServerView RAID User's Guide"
- "Integrated Mirroring User's Guide"



PRIMERGY manuals are available in PDF format on the ServerBooks DVD. The ServerBooks DVD is part of the ServerStart Suite supplied with every server.

The PDF files of the manuals can also be downloaded free of charge from the Internet. The overview page showing the online documentation available on the Internet can be found using the URL:

<http://manuals.fujitsu-siemens.com>. The PRIMERGY server documentation can be accessed using the *Industry standard servers* navigation option.

If you need a replacement copy of the ServerBooks DVD, send the details of your server to the following e-mail address: Reklamat-PC-LOG@fujitsu-siemens.com

Further sources of information:

- Manual for the monitor
- Documentation for boards and drives
- Documentation for your operating system
- Information files on your operating system

1.3 Expansions and conversions

Main memory expansion

The system board supports up to 8 Gbyte of main memory. 4 slots (2 memory banks with 2 slots each) are provided for the main memory. Each memory bank can be equipped with 512 Mbyte, 1 Gbyte or 2 Gbyte unbuffered DDR2 memory modules.

If the memory modules are installed in pairs, they must be identical (2-way interleaved mode).

Additional accessible drive

A 3.5-inch bay for an HDD extension box or a backup drive is available.



Expansion cards in the PCI slots

The following PCI slots are provided by the system board:

PCI slot	Description
1	PCI slot (32-bit/33MHz)
2	PCI Express x4 slot (slot in x8 size)
3	PCI Express x1 slot (slot in x1 size)

1.4 Notational conventions

The following notational conventions are used in this manual:

<i>Text in italics</i>	indicates commands, menu items or software programs.
“Quotation marks”	indicate names of chapters and terms that are being emphasized.
►	describes activities that must be performed in the order shown.
 CAUTION!	pay particular attention to texts marked with this symbol. Failure to observe this warning may endanger your life, destroy the system or lead to the loss of data.
	indicates additional information, notes and tips.

2 Procedure



CAUTION!

- The actions described in this manual should only be performed by technical specialists.
 - Equipment repairs should only be performed by service personnel.
 - Any unauthorized opening and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment.
 - Any unauthorized opening of the device will result in the invalidation of the warranty and exclusion from all liability.
- ▶ First of all please familiarize yourself with the safety instructions in [chapter “Safety” on page 13](#).
 - ▶ Ensure that all required manuals (see [“Documentation overview” on page 6](#)) are available, printing out the PDF files if necessary. You will definitely need the Operating Manual for the server and the Technical Manual for the system board.
 - ▶ Shut down the server correctly, switch it off, pull out the power plug(s), and open the server as described in [chapter “Preparation” on page 19](#).
 - ▶ Extend or upgrade your server as described in the relevant chapter.
- i

The Operating Manual for the server describes how you install/remove the hot-plug components.
- ▶ Close the server, connect it to the power outlet, and switch it on as described in [chapter “Completion” on page 41](#).
 - ▶ Start the operating system and, if necessary, configure it as required (see the Operating Manual).

3 Safety



The following safety instructions are also provided in the manual “Safety notes and other important information”.

This device complies with the relevant safety regulations for data processing equipment. If you have any questions about where you can set up the device, contact your sales outlet or our customer service team.



CAUTION!

- The actions described in this manual should only be performed by technical specialists.
- Equipment repairs should only be performed by service personnel.
- Any unauthorized opening and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment.
- Any unauthorized opening of the device will result in the invalidation of the warranty and exclusion from all liability.

Before starting up



CAUTION!

- During installation and before operating the device, observe the instructions on environmental conditions for your device.
- If the device is brought in from a cold environment, condensation may form both inside and on the outside of the device.

Wait until the device has acclimatized to room temperature and is absolutely dry before starting it up. Material damage may be caused to the device if this requirement is not observed.

- Transport the device only in the original packaging or in packaging that protects it from knocks and jolts.

Installation and operation



CAUTION!

- This unit should not be operated in ambient temperatures above 35 °C.
- If the unit is integrated into an installation that draws power from an industrial power supply network with an IEC309 connector, the power supply's fuse protection must comply with the requirements for non-industrial power supply networks for type A connectors.
- The unit automatically adjusts itself to a mains voltage in a range of 100 V - 127 V or 200 V - 240 V. Ensure that the local mains voltage lies within these limits.
- This device must only be connected to properly grounded shock-proof sockets or insulated sockets of the rack's internal power supply with tested and approved power cables.
- Ensure that the device is connected to a grounded shockproof socket close to the device.

**CAUTION!**

- Ensure that the power sockets on the device and the grounded shock-proof sockets are freely accessible.
- The On/Off button or the main power switch (if present) does not isolate the device from the mains power supply. To disconnect it completely from the mains power supply, unplug all network power plugs from the grounded shockproof sockets.
- Always connect the server and the attached peripherals to the same power circuit. Otherwise you run the risk of losing data if, for example, the server is still running but a peripheral device (e.g. memory subsystem) fails during a power outage.
- Data cables must be adequately shielded.
- The EN 50173 and EN 50174-1/2 standards apply for LAN cabling. The minimum requirement is the use of a category 5 screened LAN cable for 10/100 Mbps Ethernet, or a category 5e cable for Gigabit Ethernet. The requirements from the ISO/IEC 11801 specification must also be met.
- Route the cables in such a way that they do not create a potential hazard (make sure no-one can trip over them) and that they cannot be damaged. When connecting the server, refer to the relevant instructions in this manual.
- Never connect or disconnect data transmission lines during a storm (risk of lightning strike).
- Make sure that no objects (e.g. jewellery, paperclips etc.) or liquids can get inside the server (risk of electric shock, short circuit).
- In emergencies (e.g. damaged casing, controls or cables, penetration of liquids or foreign bodies), switch off the server immediately, remove all power plugs and contact your sales outlet or customer service team.



CAUTION!

- Proper operation of the system (in accordance with IEC 60950-1/EN 60950-1) is only ensured if the casing is completely assembled and the rear covers for the installation slots have been fitted (electric shock, cooling, fire protection, interference suppression).
- Only install system expansions that satisfy the requirements and rules governing safety and electromagnetic compatibility and those relating to telecommunication terminals. If you install other expansions, they may damage the system or violate the safety regulations. Information on which system expansions are approved for installation can be obtained from our customer service center or your sales outlet.
- The components marked with a warning notice (e.g. lightning symbol) may only be opened, removed or exchanged by authorized, qualified personnel. Exception: hot-pluggable power supply units can be replaced.
- The warranty is void if the server is damaged during installation or replacement of system expansions.
- Only set screen resolutions and refresh rates that are specified in the operating manual for the monitor. Otherwise, you may damage your monitor. If you are in any doubt, contact your sales outlet or customer service center.

Batteries



CAUTION!

- Incorrect replacement of batteries may result in a risk of explosion. The batteries may only be replaced with identical batteries or with a type recommended by the manufacturer (see the technical manual for the system board).
- Replace the lithium-battery on the system board in accordance with the instructions in the technical manual for the system board.

Working with CDs/DVDs and CD/DVD drives

When working with devices with CD/DVD drives, these instructions must be followed.



CAUTION!

- Only use CDs/DVDs that are in perfect condition in your server's CD/DVD drive, in order to prevent data loss, equipment damage and injury.
- Check each CD/DVD for damage, cracks, breakages etc. before inserting it in the drive.

Note that any additional labels applied may change the mechanical properties of a CD/DVD and cause imbalance.

Damaged and imbalanced CDs/DVDs can break at high drive speeds (data loss).

Under certain circumstances, sharp CD/DVD fragments can pierce the cover of the CD/DVD drive (equipment damage) and can fly out of the device (danger of injury, particularly to uncovered body parts such as the face or neck).



You can prevent mechanical damage and damage to the CD/DVD drive, as well as premature CD/DVD wear, by observing the following suggestions:

- Only insert CDs/DVDs in the drive when needed and remove them after use.
- Store the CDs/DVDs in suitable sleeves.
- Protect the CDs/DVDs from exposure to heat and direct sunlight.

Laser information

The CD/DVD drive complies with IEC 60825-1 laser class 1.



CAUTION!

The CD/DVD drive contains a light-emitting diode (LED), which under certain circumstances produces a laser beam stronger than laser class 1. Looking directly at this beam is dangerous.

Never remove parts of the CD/DVD drive casing!

Modules with electrostatic-sensitive components

Systems and components that might be damaged by electrostatic discharge (ESD) are marked with the following label:



Figure 1: ESD label

When you handle components fitted with ESDs, you must observe the following points under all circumstances:

- Remove the power plug before installing or removing components containing ESDs.
- You must always discharge yourself of static charges (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Only touch the components at the positions highlighted in green (touch points).
- Do not touch any exposed pins or conductors on a component.
- Use a grounding cable designed for this purpose to connect yourself to the system unit as you install components.
- Place all components on a static-safe base.



You will find a detailed description for handling ESD components in the relevant European or international standards (DIN EN 61340-5-1, ANSI/ESD S20.20).

4 Preparation



CAUTION!

Please note the safety instructions in [chapter “Safety” on page 13](#).

4.1 Opening the server

- ▶ Exit all applications and shut down the server properly.
- ▶ Press the On/Off button if the server has not been switched off by the operating system.
- ▶ Unplug all power plugs.
- ▶ Disconnect all cables on the rear of the server.

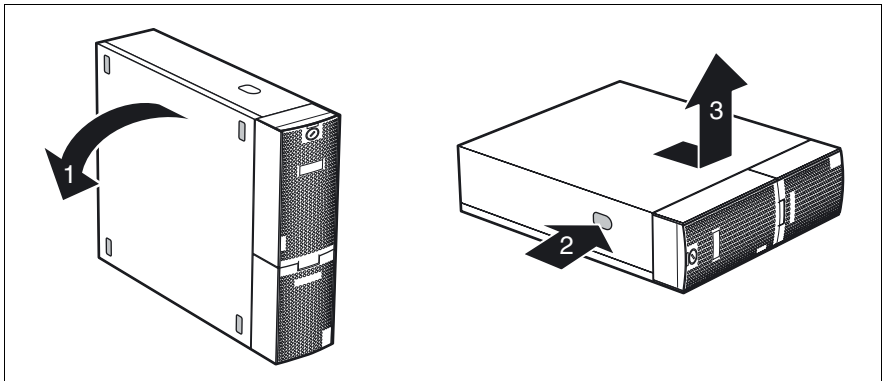


Figure 2: Opening the server

- ▶ Remove the stabilizers from the server (see operating manual) and place the server on its four rubber feet (1), if the server is operated in the vertical position.
- ▶ Press and hold in the locks on both sides of the server (2), push the top cover forwards and lift it up and off (3).

4.2 Removing the crosspiece

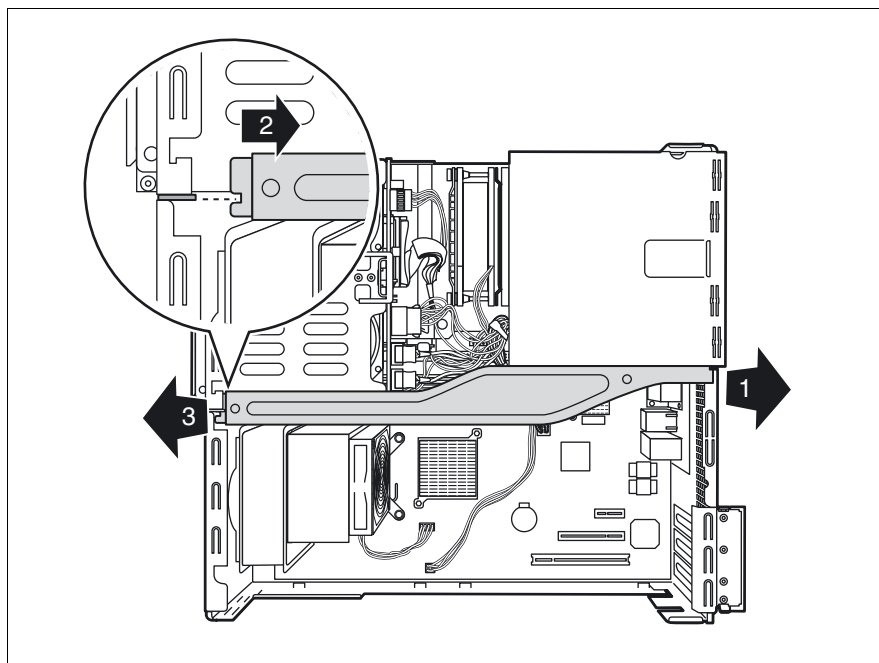


Figure 3: Removing the crosspiece

- ▶ Pull the crosspiece out a little to the side (1).
- ▶ Unhook the crosspiece on the left (2).
- ▶ Carefully remove the crosspiece (3).

4.3 Removing the drive cage

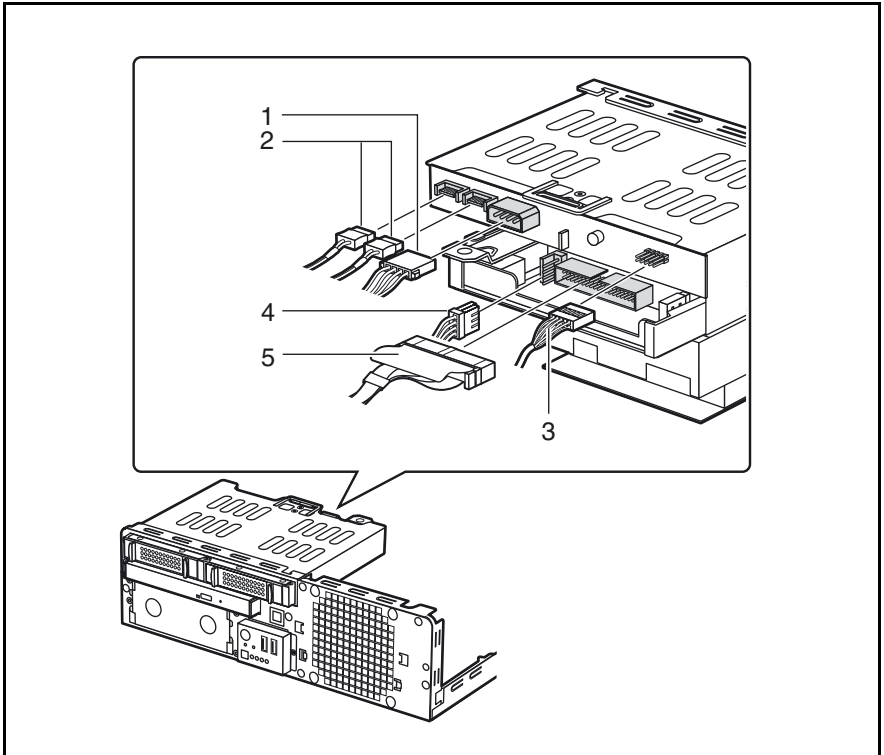


Figure 4: Disconnecting the cables

- Disconnect the following cables from the SAS backplane (1-3) and from the CD/DVD drive (4-5):
 1. Power cable
 2. SAS data cable
 3. SAS-LED cable
 4. Power cable
 5. IDE cable

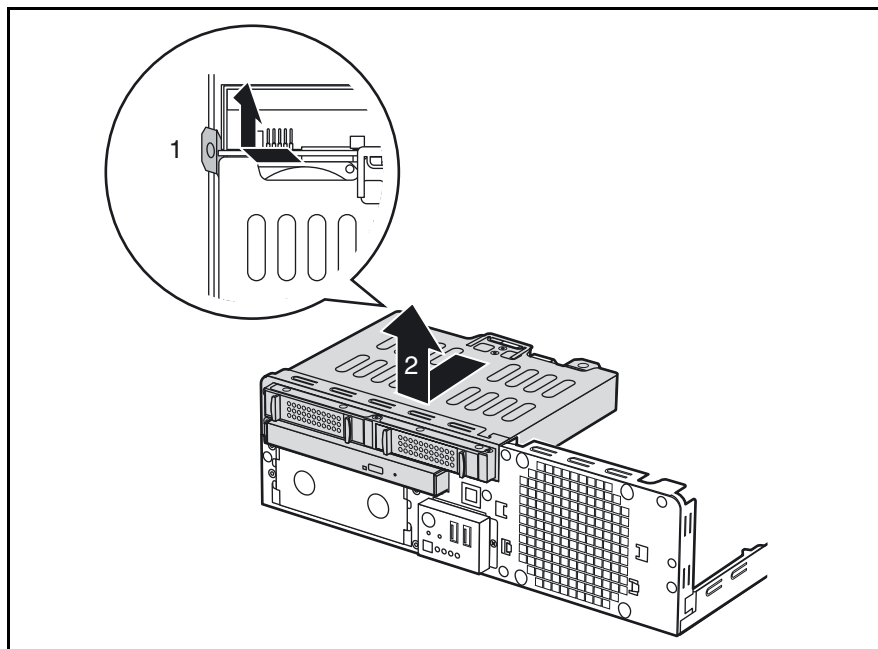


Figure 5: Removing the drive cage

- Disengage the lock of the drive cage (1).
- Pull out the drive cage in the direction of the arrow (2).

5 Main memory



CAUTION!

Please note the safety instructions in [chapter “Safety” on page 13](#).

The system board supports up to 8 Gbyte of main memory. 4 slots (2 memory banks with 2 slots each) are provided for the main memory. Each memory bank can be equipped with 512 Mbyte, 1 Gbyte or 2 Gbyte unbuffered DDR2 memory modules.

5.1 Equipping rules

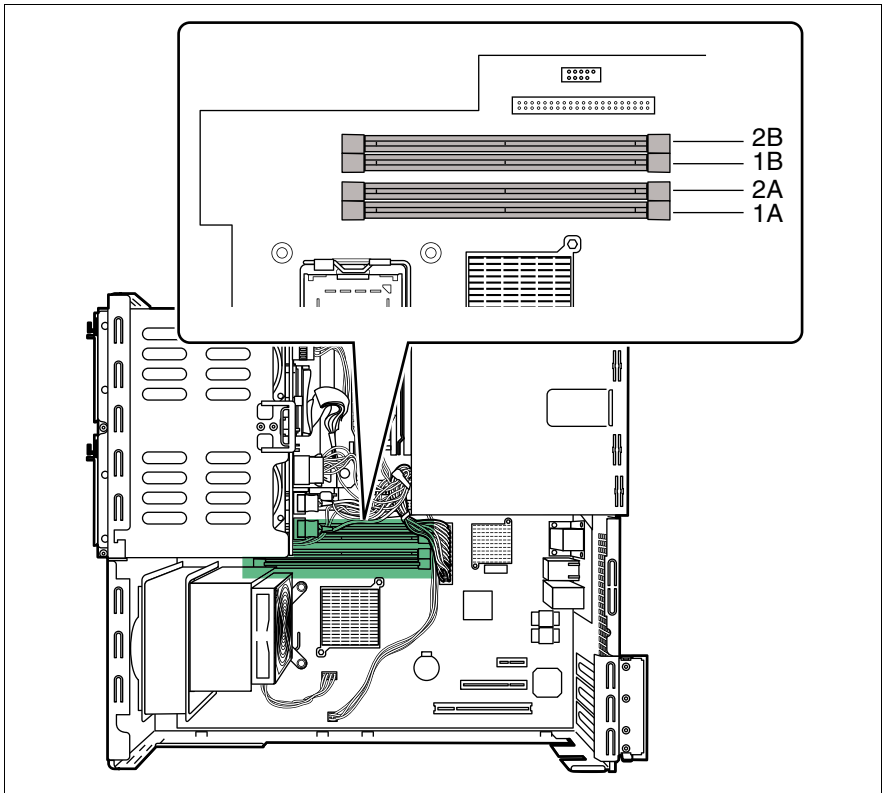


Figure 6: Configuration of the main memory

- If the memory modules are installed in pairs, they must be identical (2-way interleaved mode).
- Memory module capacity may be different for the various pairs: e.g. pair 2A/2B may be equipped with two 512 Mbyte memory modules, and pair 1A/1B may be equipped with two 1 Gbyte memory modules.

The following table shows the prescribed equipping order:

Mode	DIMM-1A	DIMM-2A	DIMM-1B	DIMM-2B
Single channel	equipped	empty	empty	empty
Single/dual channel ¹	equipped	equipped	equipped	empty
	equipped	empty	equipped	empty
Dual channel	equipped	equipped	equipped	equipped

¹ Dual channel mode is not activated unless the size of the memory module in DIMM 2-A is equal to the sum of the memory modules in DIMM-1A and DIMM-1B (e.g.: DIMM-1A= 512Mbyte, DIMM-1B=512Mbyte, DIMM-2A=1Gbyte)

5.2 Expanding/replacing the main memory

- ▶ Open the server (see section [“Opening the server”](#) on page 19).
- ▶ Remove the crosspiece (see section [“Removing the crosspiece”](#) on page 20).

Removing a memory module

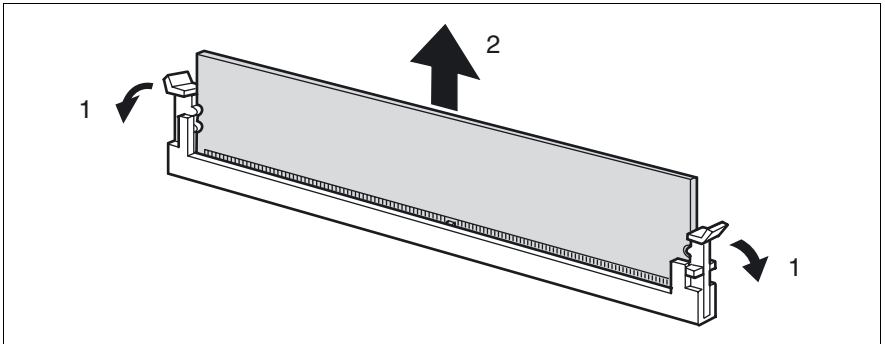


Figure 7: Removing a memory module

- ▶ Fold the assembly brackets outwards on both sides of the corresponding slot (1).
- ▶ If the slot was equipped: pull the memory module out of the slot (2).

Installing a memory module

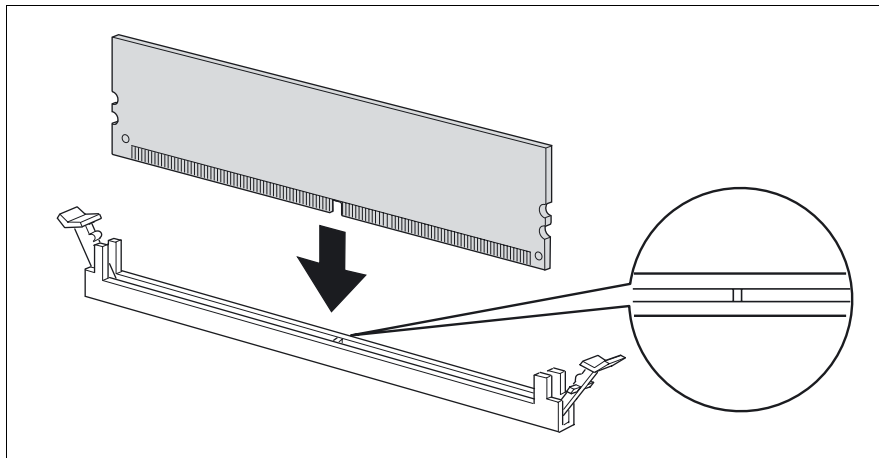


Figure 8: Installing a memory module

- ▶ Fold the assembly brackets outwards on both sides of the corresponding slot.
- ▶ Insert the memory module into the slot with the connecting contacts and the notch first until the side brackets engage on the memory module.
- ▶ Install the crosspiece (see section [“Installing the crosspiece” on page 43](#)).
- ▶ Close the server (see section [“Assembling the server” on page 44](#)).
- ▶ If necessary, place the server in the vertical position as described in the operating manual
- ▶ Connect the system to the line voltage and switch it on.

6 Accessible drives



CAUTION!

Follow the safety instructions in chapter [“Safety” on page 13](#).

A 3.5-inch bay for an HDD extension box (with a maximum of two HDD modules) or a backup drive is available.

6.1 Installing an HDD extension box

- ▶ Open the server (see section [“Opening the server” on page 19](#)).
- ▶ Remove the crosspiece (see section [“Removing the crosspiece” on page 20](#)).
- ▶ Remove the drive cage (see section [“Removing the drive cage” on page 21](#)).

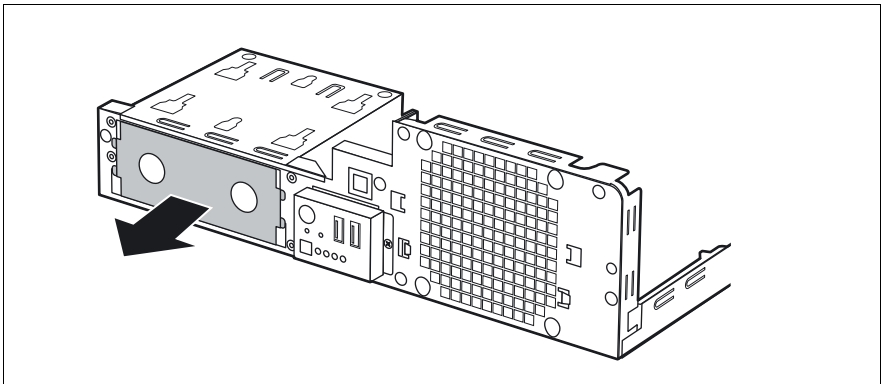


Figure 9: Removing the protection shield from the 3.5-inch bay

- ▶ Grasp the protection shield through the holes and pull it out in the direction of the arrow.



CAUTION!

Store the protection shield in a safe place. If you remove the HDD extension box again and don't replace it with a new one, you must install the protection shield instead for purposes of cooling, to comply with EMC regulations and to prevent fire.

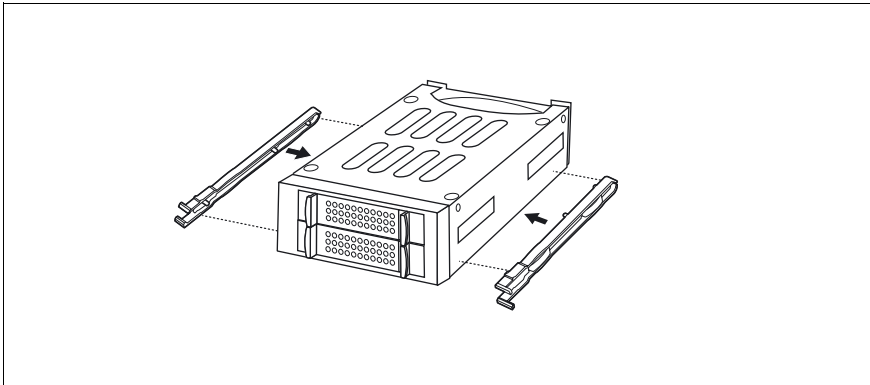


Figure 10: Fixing the rails on the HDD extension box

- Fix the rails to the HDD extension box by inserting the pins on the rail in the corresponding holes in the HDD extension box.

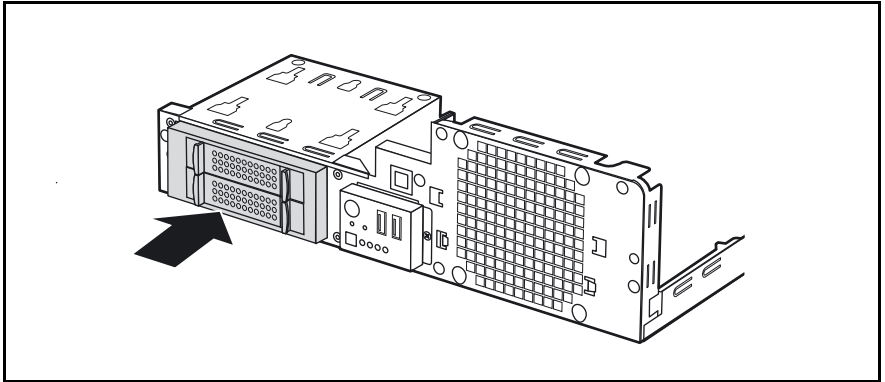


Figure 11: Installing an HDD extension box

- ▶ Slide the HDD extension box into the slot.
- ▶ Connect the SAS data cable to the HDD extension box (see cabling diagrams in the appendix).
- ▶ Connect the power cable to the HDD extension box (see cabling diagrams in the appendix).
- ▶ Connect the SAS LED cable to the HDD extension box (see cabling diagrams in the appendix).
- ▶ Install the drive cage (see section [“Installing the drive cage” on page 41](#)).
- ▶ Install the crosspiece (see section [“Installing the crosspiece” on page 43](#)).

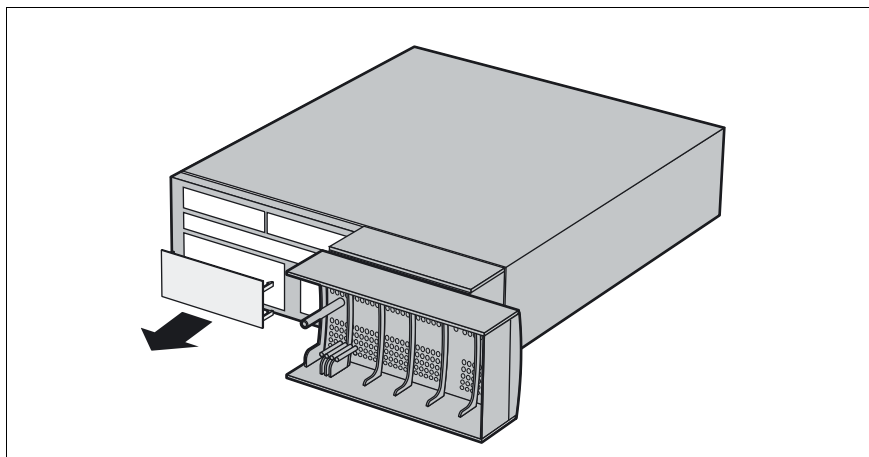


Figure 12: Removing the dummy cover from the top cover

- ▶ Press the dummy cover outwards from the top cover in the direction of the arrow.



CAUTION!

Keep the dummy cover in a safe place. If the HDD extension box is removed again and not replaced with a new one, then the dummy cover must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

- ▶ Close the server (see section [“Assembling the server” on page 44](#)).
- ▶ If necessary, place the server in the vertical position as described in the operating manual
- ▶ Connect the system to the line voltage and switch it on.

6.2 Installing a backup drive

- ▶ Open the server (see section [“Opening the server”](#) on page 19).
- ▶ Remove the crosspiece (see section [“Removing the crosspiece”](#) on page 20).
- ▶ Remove the drive cage (see section [“Removing the drive cage”](#) on page 21).

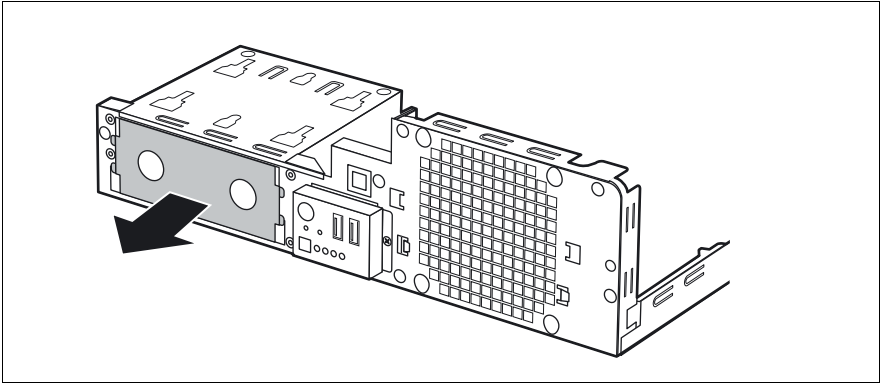


Figure 13: Removing the protection shield from the 3.5-inch bay

- ▶ Grasp the protection shield through the holes and pull it out in the direction of the arrow.



CAUTION!

Store the protection shield in a safe place. If the backup drive is removed again and not replaced with a new one, then the protection shield must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

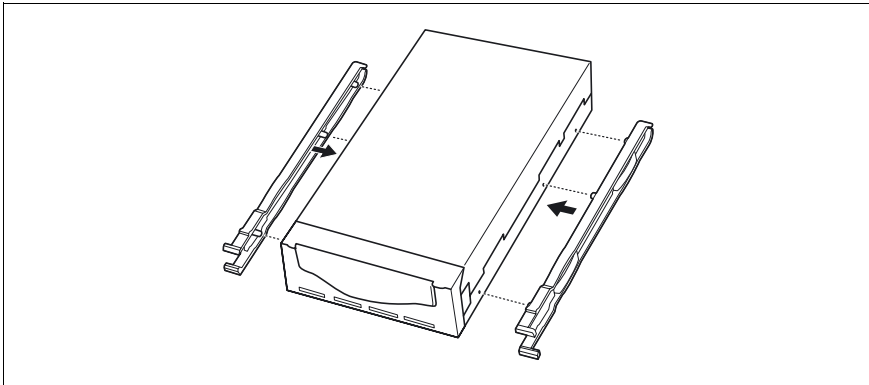


Figure 14: Fixing the rails on the backup drive

- Fix the rails on the backup drive by inserting the pins on the rails in the corresponding holes in the backup drive.

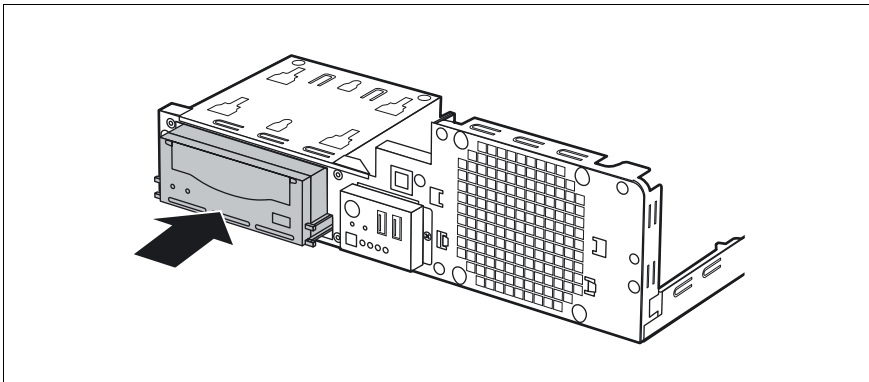


Figure 15: Installing a backup drive

- Insert the backup drive into the location.

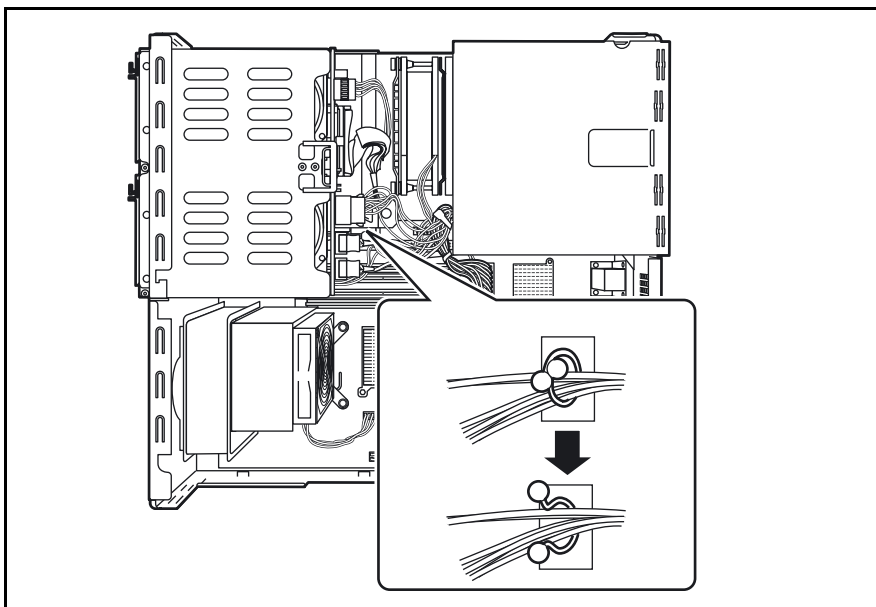


Figure 16: Unfastening the cable clamp

- Unfasten the cable clamp.

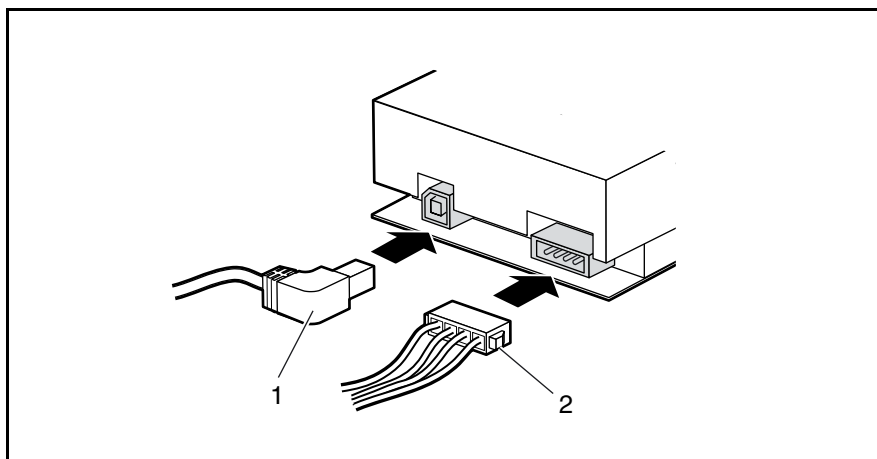


Figure 17: Connecting the USB and power cables to the backup drive

- ▶ Plug the USB cable (1) and the power cable (2) into the backup drive (see cabling diagrams in the appendix).
- ▶ Plug the other end of the USB cable into the system board (see cabling diagrams in the appendix).
- ▶ Install the drive cage (see section [“Installing the drive cage” on page 41](#)).
- ▶ Install the crosspiece (see section [“Installing the crosspiece” on page 43](#)).

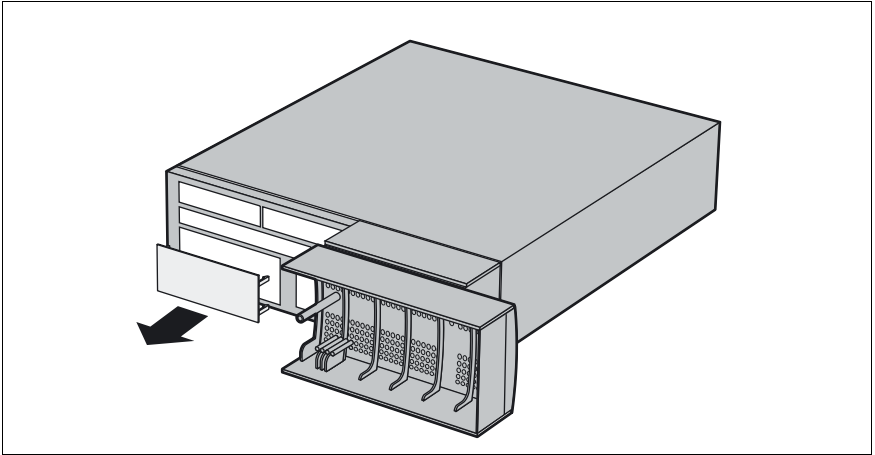


Figure 18: Removing the dummy cover from the top cover

- ▶ Press the dummy cover outwards from the top cover in the direction of the arrow.



CAUTION!

Keep the dummy cover in a safe place. If the backup drive is removed again and not replaced with a new one, then the dummy cover must be reinstalled due to cooling, the applicable EMC regulations (regulations on electromagnetic compatibility) and fire protection.

- ▶ Close the server (see section [“Assembling the server” on page 44](#)).
- ▶ If necessary, place the server in the vertical position as described in the operating manual
- ▶ Connect the system to the line voltage and switch it on.

7 Expansion cards in the PCI slots



CAUTION!

Follow the safety instructions in chapter [“Safety” on page 13](#).

7.1 PCI slot overview

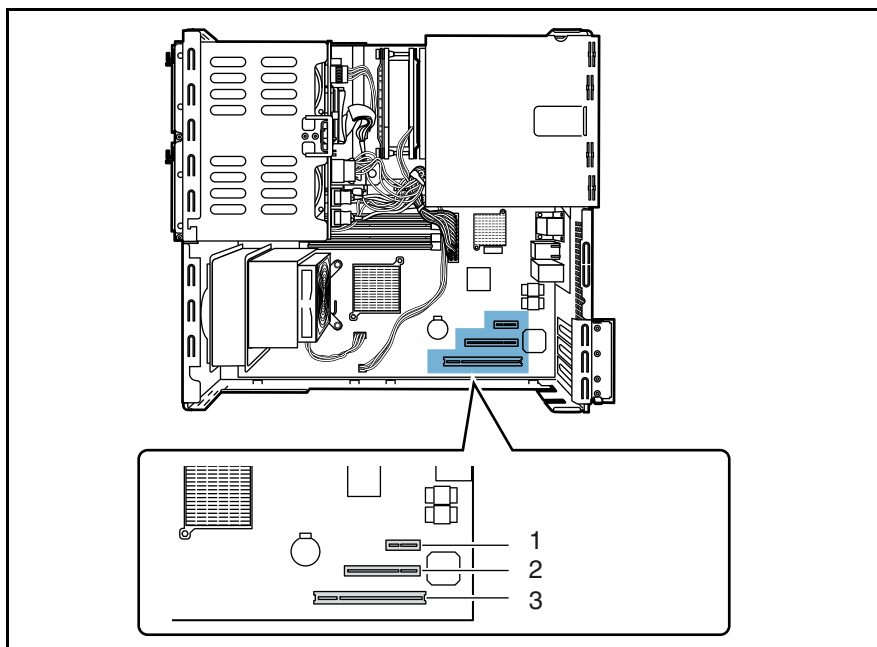


Figure 19: PCI slots

PCI slot	Description
1	PCI Express x1 slot (slot in x1 size)
2	PCI Express x4 slot (slot in x8 size)
3	PCI slot (32-bit/33MHz)

7.2 Installing an expansion card

- ▶ Open the server (see section [“Opening the server” on page 19](#)).
- ▶ Please read the documentation supplied with the expansion card.

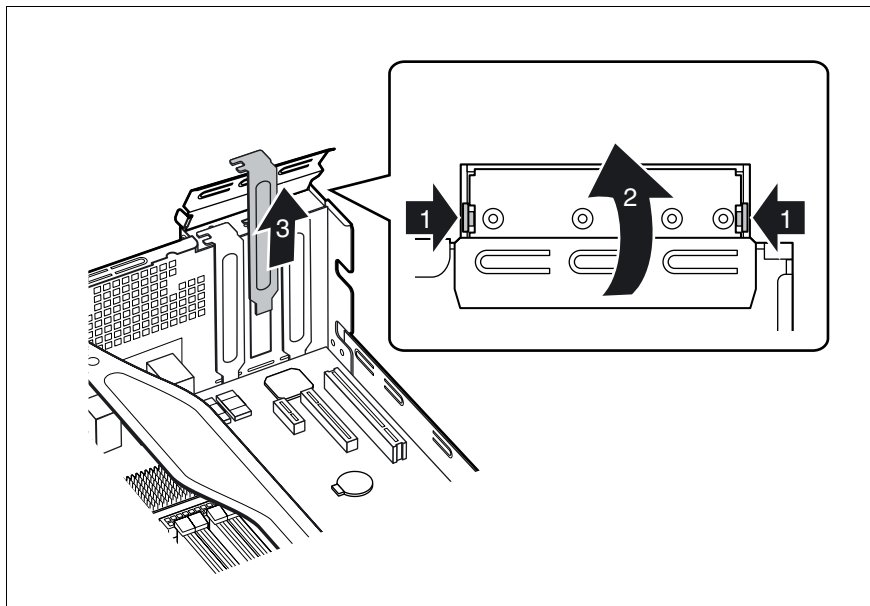


Figure 20: Opening the lock and removing the slot cover

- ▶ Press the lock together (1) and open it up (2).
- ▶ Pull out the slot cover (3).



CAUTION!

Keep the slot cover in a safe place. If the expansion card is removed and not replaced with a new card, the slot cover must be reinstalled due to cooling, to comply with applicable EMC regulations (regulations on electromagnetic compatibility) and to protect against fire.

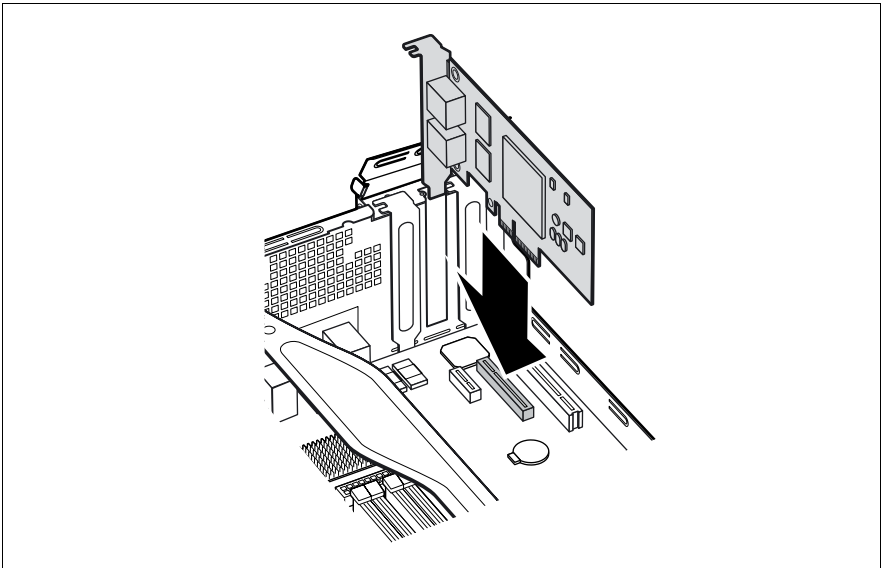


Figure 21: Installing an expansion card

- ▶ Push the expansion card as far as it will go into the slot on the system board.
- ▶ Press the expansion card into the slot until you feel it click into place.

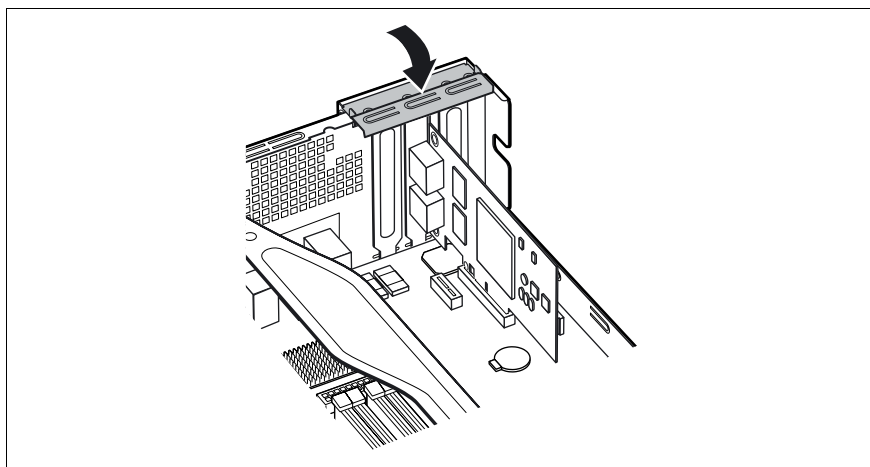


Figure 22: Closing the lock and fastening the slot cover

- ▶ Close the lock again until it engages.
- ▶ If necessary, connect the cable to the expansion card and the other components.
- ▶ Close the server (see section [“Assembling the server” on page 44](#)).
- ▶ If necessary, place the server in the vertical position as described in the operating manual
- ▶ Connect the system to the line voltage and switch it on.

8 Completion



CAUTION!

Follow the safety instructions in chapter [“Safety” on page 13](#).

8.1 Installing the drive cage

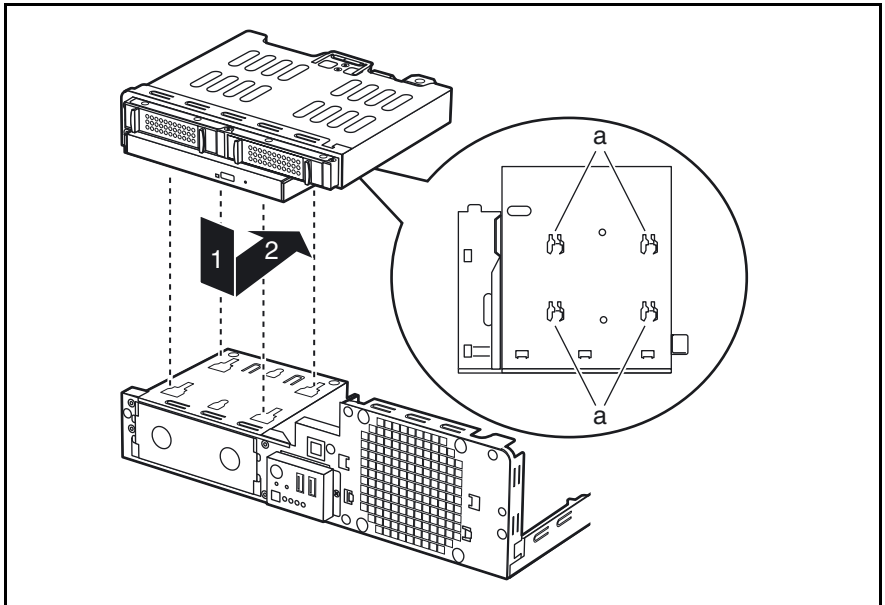


Figure 23: Installing the drive cage

- ▶ Place the drive cage on the 3.5-inch bay (1), so that the four tabs in the housing (a) are positioned in the corresponding openings.
- ▶ Slide the drive cage in the direction of the arrow (2) until it clicks into place.

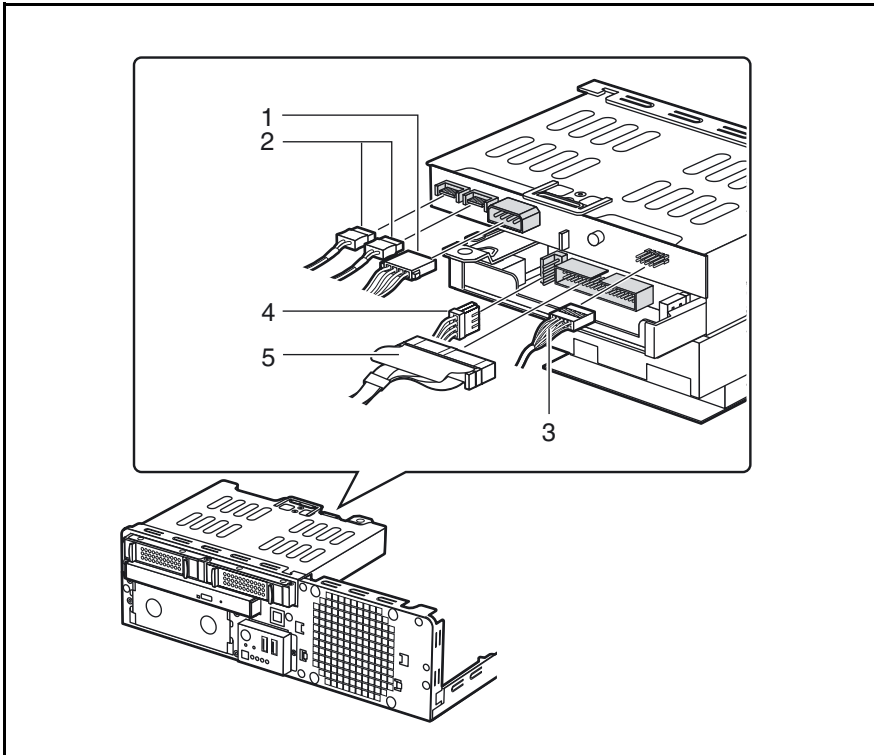


Figure 24: Connecting the cables

- Plug the power cable (1), the SAS data cable (2) and the SAS LED cable (3) into the SAS backplane (see cabling diagrams in the appendix).
- Plug the power cable (4) and the IDE cable (5) into the CD/DVD drive (see cabling diagrams in the appendix).

8.2 Installing the crosspiece

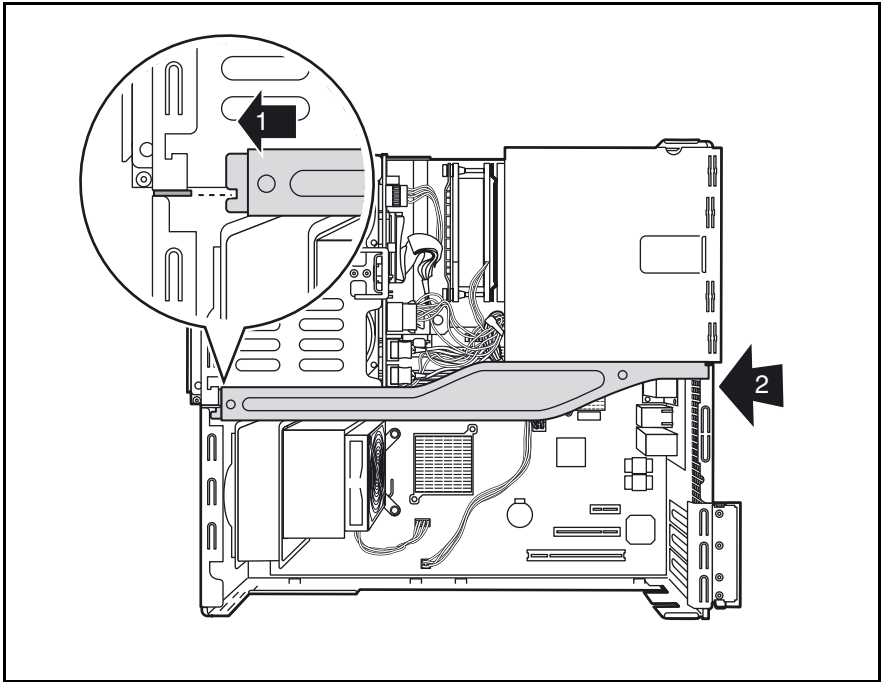


Figure 25: Installing the crosspiece

- ▶ Hook the crosspiece on the left in place (1).
- ▶ Press on the right side of the crosspiece (2) until you feel it click into place.

8.3 Assembling the server

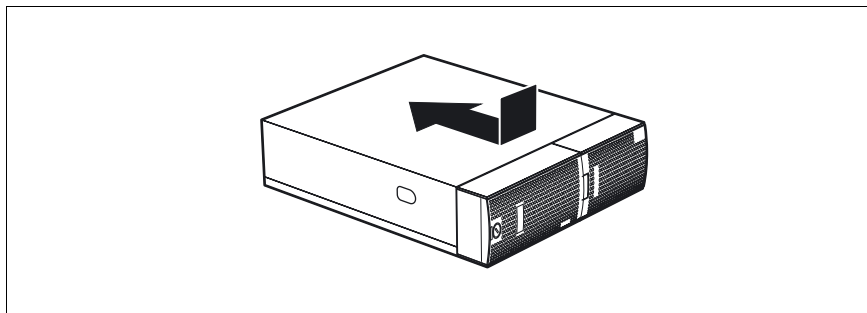


Figure 26: Assembling the server

- Place the top cover flat and straight on the server and push it as far as it will go in the direction of the arrow.

Make sure that the locks on both sides of the server engage.

9 Appendix

9.1 Cabling

The following table shows a cable overview:

Part number	Code number	Name	Length
	A3C40083117	SAS-LED cable	250 mm
	A3C40083119	USB cable	85 mm
	A3C40083120	IDE cable	185 mm
	A3C40083123	Control panel cable (front panel)	50 mm
	A3C40083128	SAS cable	290 mm
	A3C40085241	SAS-LED cable	160 mm

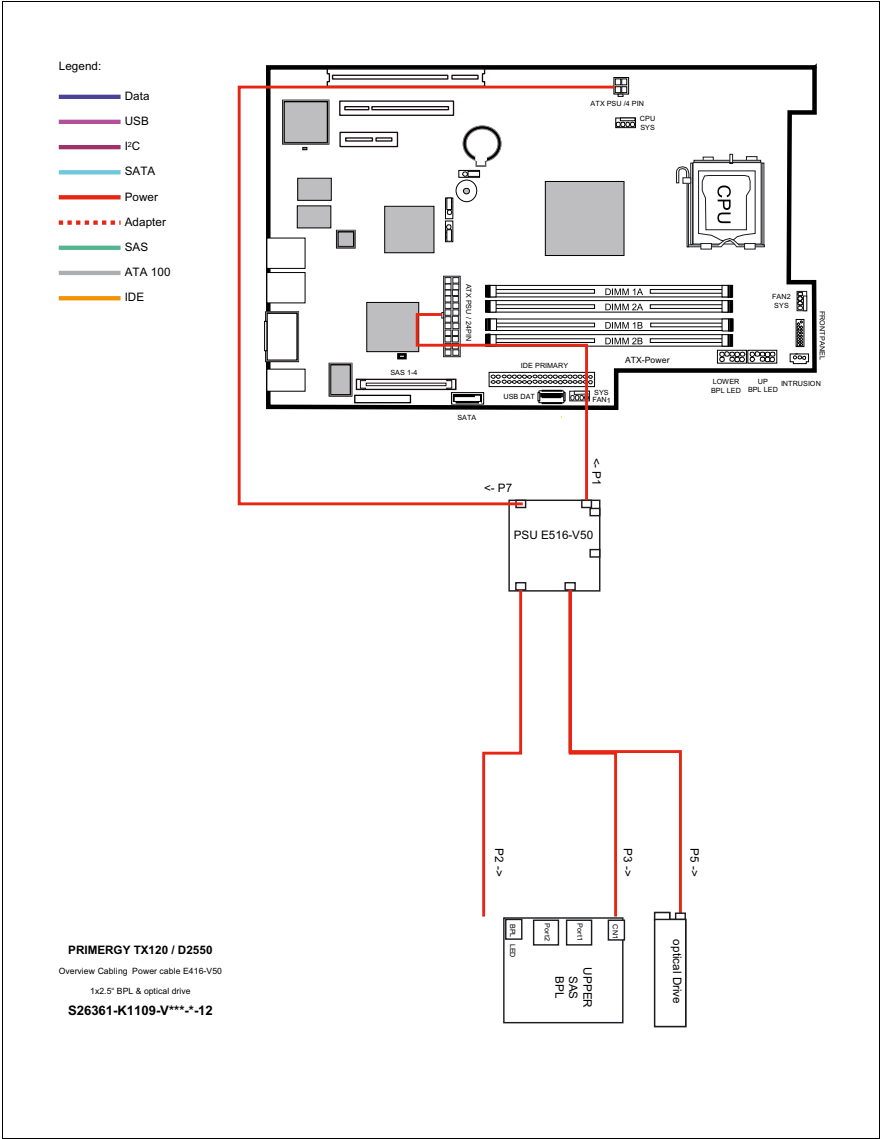


Figure 27: Power cable: SAS backplane and CD/DVD drive

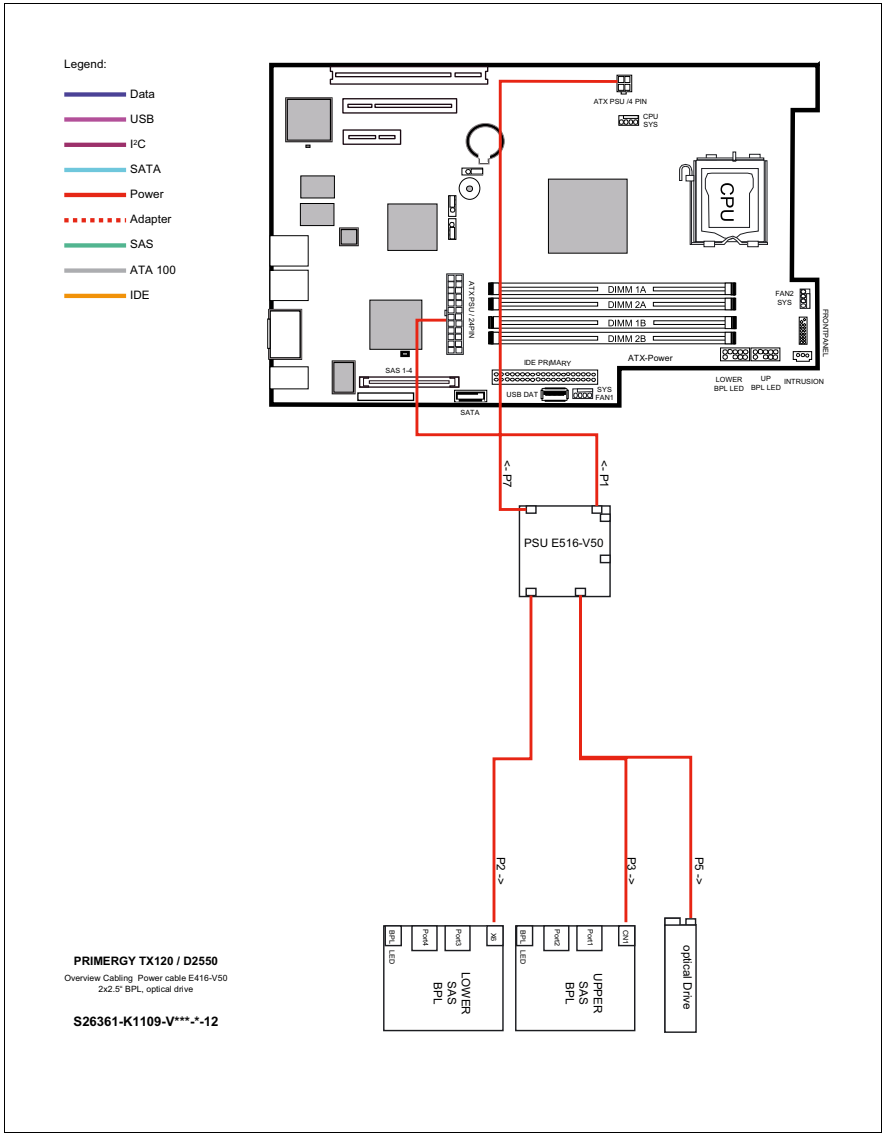


Figure 28: Power cable: 2 x SAS backplane and CD/DVD drive

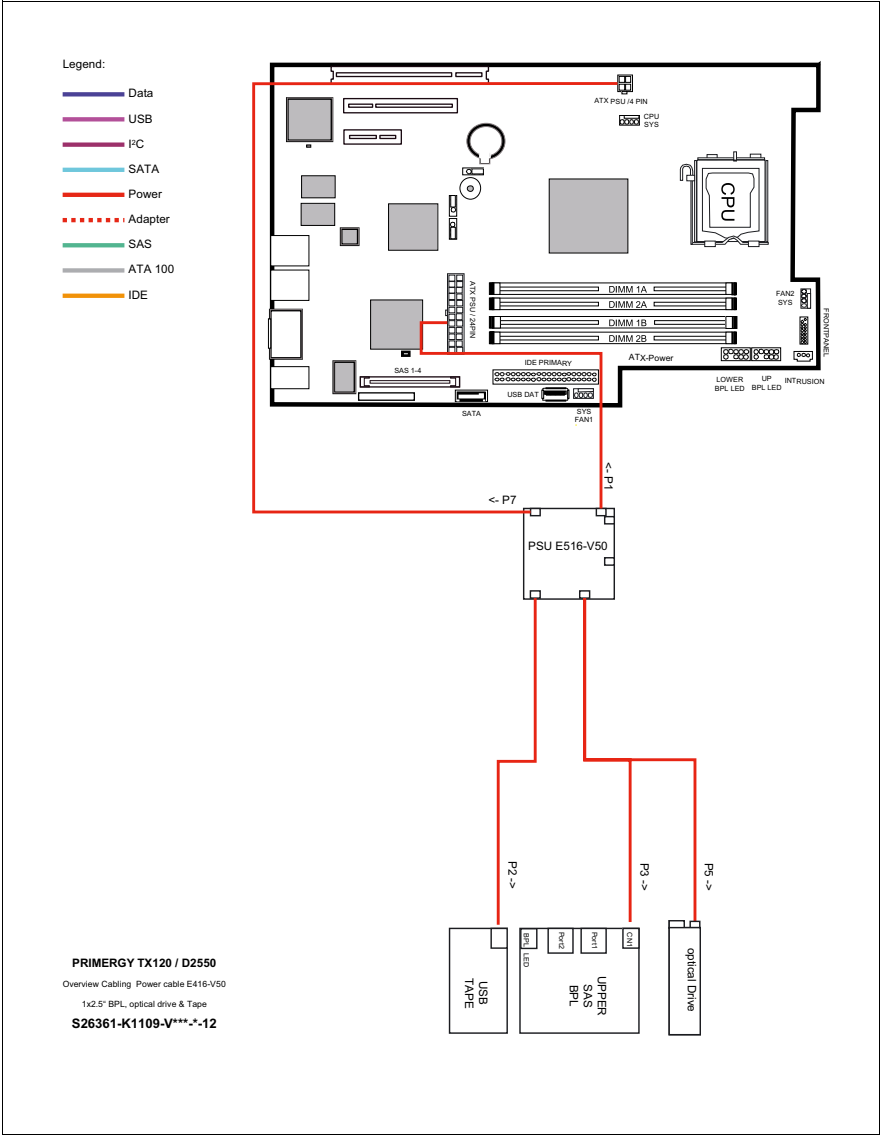


Figure 29: Power cable: SAS backplane, backup drive and CD/DVD drive

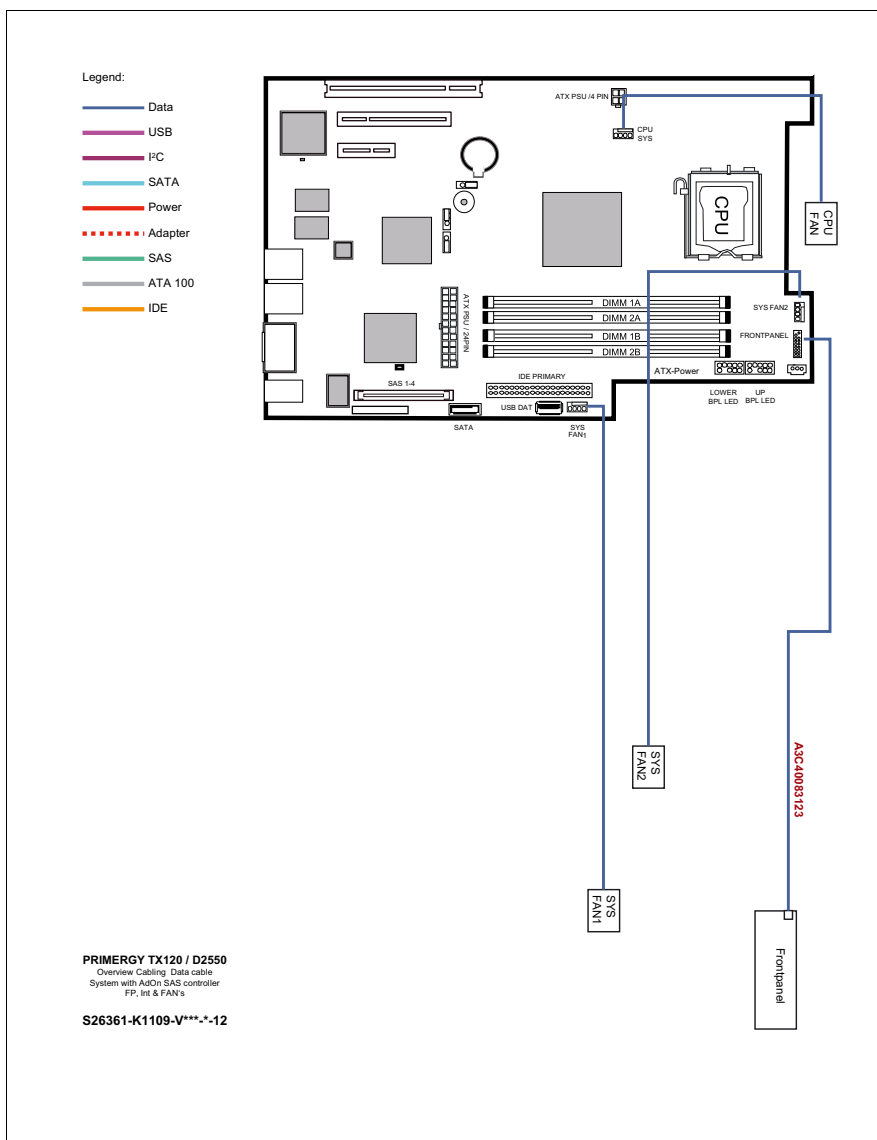


Figure 30: Cabling: fan, control panel (front panel)

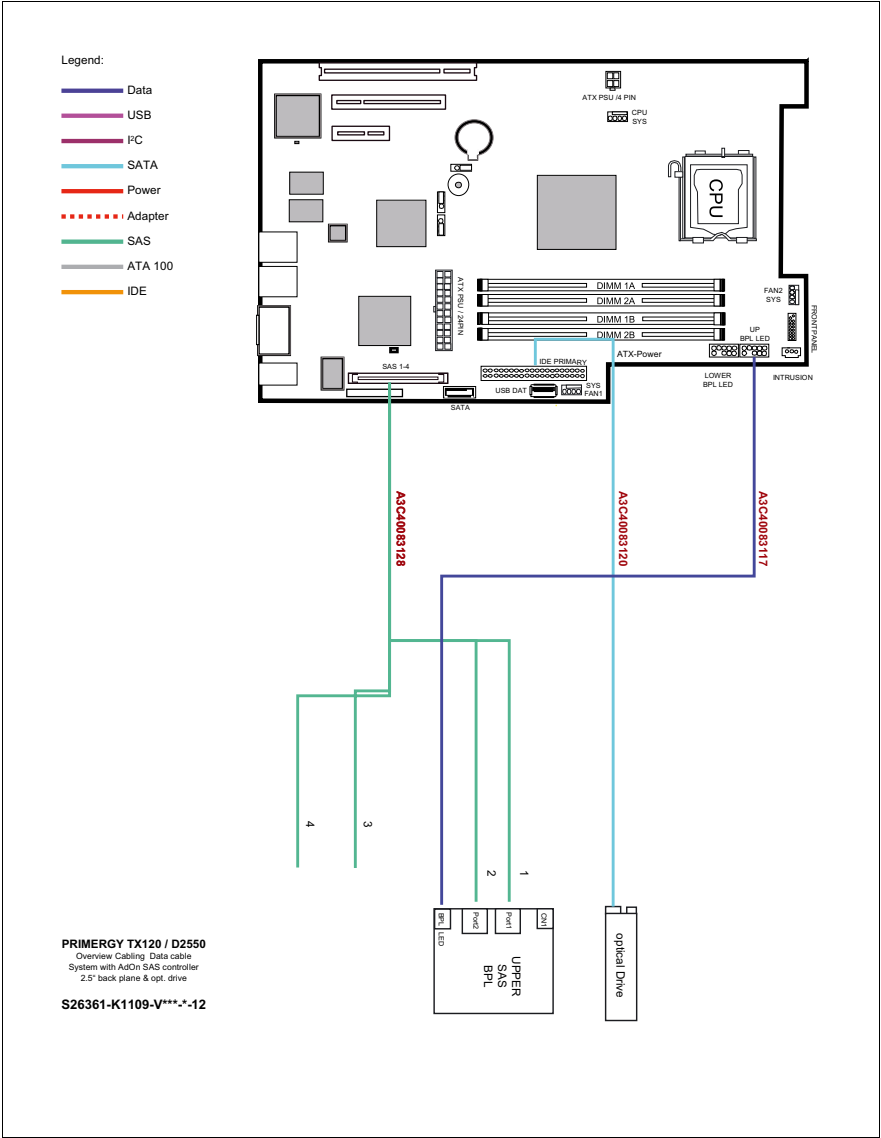


Figure 31: Data and signal cable: SAS backplane and CD/DVD drive

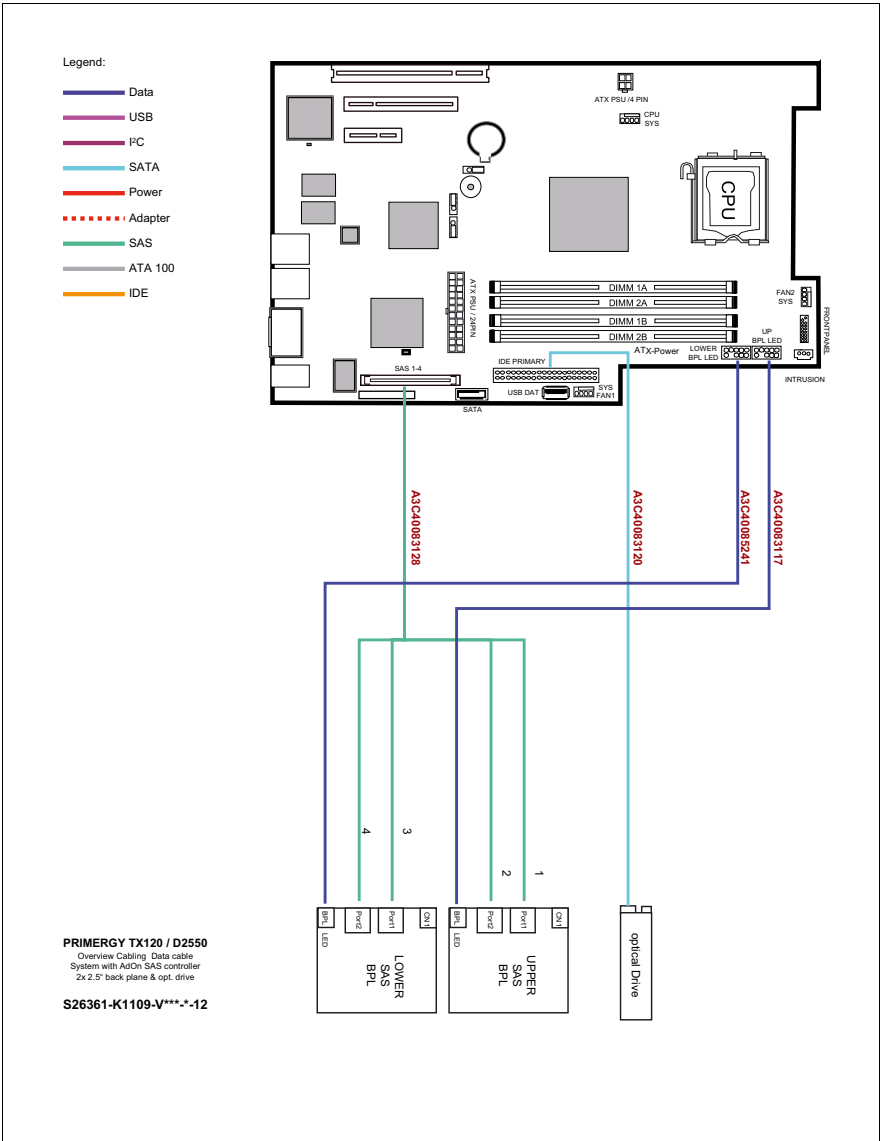


Figure 32: Data and signal cable: 2 x SAS backplane and CD/DVD drive

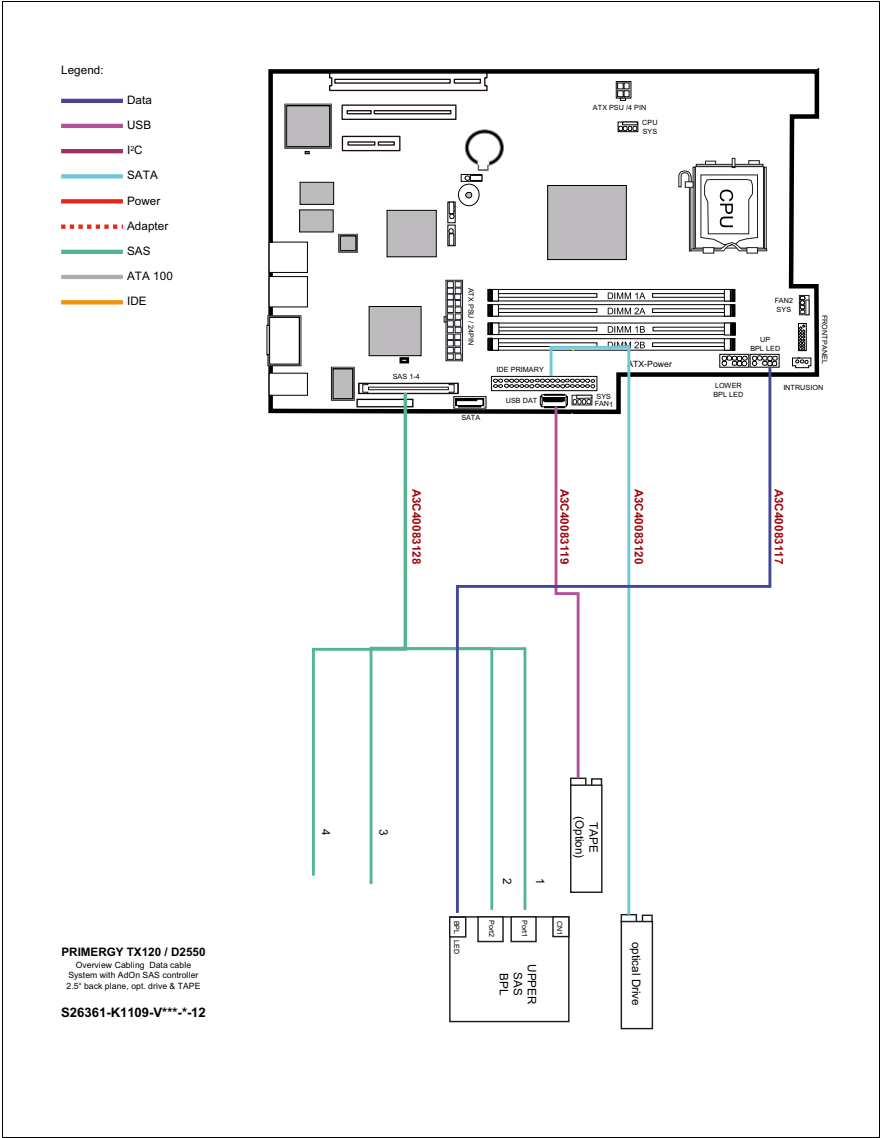


Figure 33: Data and signal cable: SAS backplane, backup drive and CD/DVD drive

Abbreviations

AC

Alternating Current

ANSI

American National Standard Institute

ASR&R

Automatic Server Reconfiguration and Restart

BIOS

Basic Input-Output System

BMC

Baseboard Management Controller

CC

Cache Coherency

CD

Compact Disk

CD-ROM

Compact Disk-Read Only Memory

CHS

Cylinder Head Sector

CMOS

Complementary Metal Oxide Semiconductor

COM

Communication

CPU

Central Processing Unit

DC

Direct Current

Abbreviations

DIMM

Dual Inline Memory Module

DIP

Dual Inline Package

DMA

Direct Memory Access

DMI

Desktop Management Interface

ECC

Error Checking and Correcting

ECP

Extended Capabilities Port

EEPROM

Electrically Erasable Programmable Read-Only Memory

EGB

Elektrostatisch Gefährdete Bauteile

EMP

Emergency Management Port

EPP

Enhanced Parallel Port

EMV

Elektromagnetische Verträglichkeit

FPC

Front Panel Controller

FRU

Field Replaceable Unit

FSB

Front Side Bus

GAM	Global Array Manager
GUI	Graphical User Interface
HDD	Hard Disk Drive
HSC	Hot-Swap Controller
I²C	Inter-Integrated Circuit
I/O	Input/Output
ICM	Intelligent Chassis Management
ID	Identification
IDE	Integrated Drive Electronics
IOOP	Intelligent Organization of PCI
iRMC	integrated Remote Management Controller
IRQ	Interrupt Request Line
LAN	Local Area Network
LBA	Logical Block Address

Abbreviations

LCD

Liquid Crystal Display

LUN

Logical Unit Number

LVD

Low-Voltage Differential SCSI

LWL

LichtWellenLeiter

MMF

Multi Mode Faser

MRL

Manually Retention Latch

NMI

Non Maskable Interrupt

NVRAM

Non Volatile Random Access Memory

OS

Operating System

PCI

Peripheral Component Interconnect

PDA

Prefailure Detection and Analyzing

POST

Power ON Self Test

RAID

Redundant Arrays of Independent Disks

RAM

Random Access Memory

ROM	Read-Only Memory
RSB	RemoteView Service Board
RTC	Real Time Clock
RTDS	Remote Test- und Diagnose-System
SAF-TE	SCSI Accessed Fault-Tolerance Enclosures
SAS	Serial Attached SCSI
SATA	Serial ATA
SBE	Single Bit Error
SCA	Single Connector Attachment
SCSI	Small Computer System Interface
SDR	Sensor Data Record
SDRAM	Synchronous Dynamic Random Access Memory
SEL	System Event Log
SMI	System Management Interrupt

Abbreviations

SSU

System Setup Utility

SVGA

Super Video Graphics Adapter

USB

Universal Serial Bus

VGA

Video Graphics Adapter

ZCR

Zero Channel RAID

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